

# Homelite®

## OWNERS MANUAL

# PROPANE CONSTRUCTION HEATER

Model HP35



Indicates Warning,  
Danger, and Caution



Read all Safety, Operating,  
and Maintenance  
Instructions



### GENERAL HAZARD WARNING:

FAILURE TO COMPLY WITH THE PRECAUTIONS AND INSTRUCTIONS PROVIDED WITH THIS HEATER, CAN RESULT IN DEATH, SERIOUS BODILY INJURY AND PROPERTY LOSS OR DAMAGE FROM HAZARDS OF FIRE, EXPLOSION, BURN, ASPHYXIATION, CARBON MONOXIDE POISONING, AND/OR ELECTRICAL SHOCK.

ONLY PERSONS WHO CAN UNDERSTAND AND FOLLOW THE INSTRUCTIONS SHOULD USE OR SERVICE THIS HEATER.

IF YOU NEED ASSISTANCE OR HEATER INFORMATION SUCH AS AN INSTRUCTIONS MANUAL, LABELS, ETC. CONTACT THE MANUFACTURER.



**FIRST EDITION**  
**PART NO. 18994**  
Printed In U.S.A.  
Price \$1.00




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## SAFETY INFORMATION

### WARNINGS

 **WARNING: FIRE, BURN, INHALATION, AND EXPLOSION HAZARD. KEEP SOLID COMBUSTIBLES, SUCH AS BUILDING MATERIALS, PAPER OR CARDBOARD, A SAFE DISTANCE AWAY FROM THE HEATER AS RECOMMENDED BY THE INSTRUCTIONS. NEVER USE THE HEATER IN SPACES WHICH DO OR MAY CONTAIN VOLATILE OR AIRBORNE COMBUSTIBLES, OR PRODUCTS SUCH AS GASOLINE, SOLVENTS, PAINT THINNER, DUST PARTICLES OR UNKNOWN CHEMICALS.**

### WARNING

#### **NOT FOR HOME OR RECREATIONAL VEHICLE USE.**

The heater is designed for use as a construction heater in accordance with ANSI Z83.7•CGA2.14. Other standards govern the use of fuel gases and heating products for specific uses. Your local authority can advise you about these. The primary purpose of construction heaters is to provide temporary heating of buildings under construction, alteration or repair. Properly used, the heater provides safe economical heating. Products of combustion are vented into the area being heated.

We cannot foresee every use which may be made of our heaters. **Check with your local fire safety authority if you have questions about heater use.**

Other standards govern the use of fuel gases and heat producing products for specific uses. Your local authorities can advise you about these.

**Carbon Monoxide Poisoning:** Some people are more affected by carbon monoxide than others. Early signs of carbon monoxide poisoning resemble the flu, with headaches, dizziness, and/or nausea. If you have these signs, the heater may not be working properly. **Get fresh air at once!** Check for proper ventilation and have heater serviced.

*Safety Information continues on next page*



# SAFETY INFORMATION

*Continued*

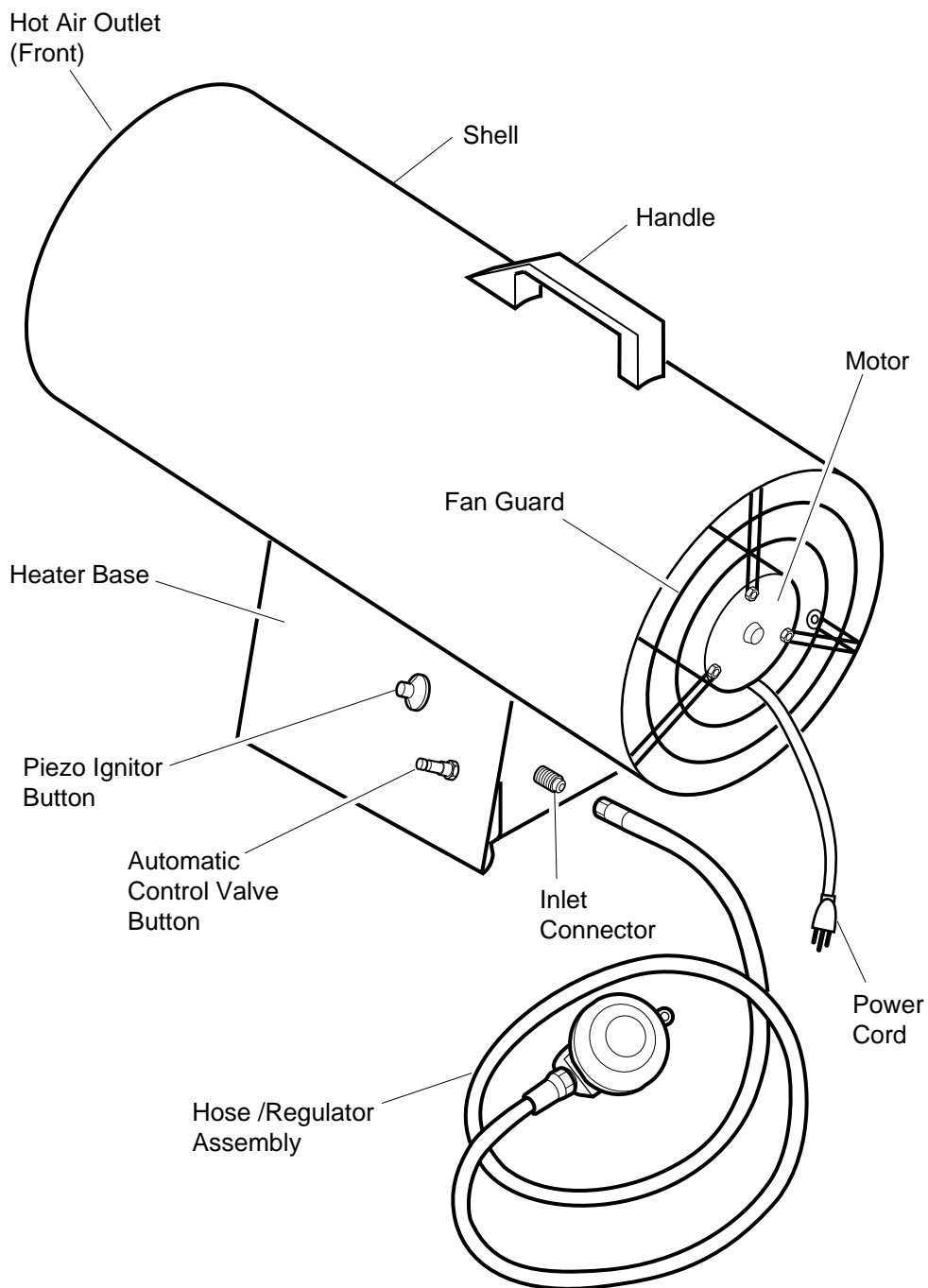
## WARNINGS

**Propane Gas:** Propane gas is odorless. An odor-making agent is added to propane gas. The odor helps you detect a propane gas leak. However, the odor added to propane gas may fade. Propane gas may be present even though no odor exists. Make certain you read and understand all warnings. Keep this manual for reference. It is your guide to safe and proper operation of this heater.

- Install and use heater with care. Follow all local ordinances and codes. In the absence of local ordinances and codes, refer to the *Standard for Storage and Handling of Liquefied Petroleum Gas, ANSI/NFPA 58* and the *Natural Gas Installation Code, CAN/CGA B149.2*. This instructs on the safe storage and handling of propane gases.
- Use only the electrical voltage and frequency specified on model plate.
- The electrical connections and grounding of the heater shall follow the National Electric Code, ANSI/NFPA 70 or Canadian Electric Code, Part 1.
- Electrical grounding instructions — This appliance is equipped with a three-prong (grounding) plug for your protection against shock hazard and should be plugged directly into a properly grounded three-prong receptacle.
- Use only a three-prong, grounded extension cord.
- Use only the hose and factory preset regulator provided with the heater.
- Use only propane gas set up for vapor withdrawal.
- Provide adequate ventilation. Before using heater, provide at least a one-square-foot opening of fresh, outside air for each 100,000 Btu/Hr of rating. This heater produces carbon monoxide, which is listed by the State of California as a reproductive toxin under Proposition 65.
- For indoor use only. Do not use heater outdoors.
- Do not use heater in occupied dwellings or in living or sleeping quarters.
- Do not use heater below ground level. Propane gas is heavier than air. If a leak occurs, propane gas will sink to the lowest possible level.
- Keep appliance area clear and free from combustible materials, gasoline, paint thinner, and other flammable vapors and liquids. Do not use heater in areas with high dust content.
- Minimum heater clearances from combustibles:  
Outlet: 6 Ft. Sides: 2 Ft. Top: 6 Ft. Rear: 2 Ft.
- Keep heater at least six feet from propane tank(s). Do not point heater at propane tank(s) within 20 feet.
- Keep propane tank(s) below 100° F.
- Check heater for damage before each use. Do not use a damaged heater.
- Check hose before each use of heater. If highly worn or cut, replace before using heater.
- Locate heater on stable and level surface if heater is hot or operating.
- Not intended for use on finished floors.
- Never block air inlet (rear) or air outlet (front) of heater.
- Keep heater away from strong drafts, water spray, rain, or dripping water.
- Do not leave heater unattended.
- Keep children and animals away from heater.
- Never move, handle, or service a hot, operating, or plugged-in heater. Severe burns may result. Wait 20 minutes after turning heater off.
- To prevent injury, wear gloves when handling heater.
- Never attach duct work to heater.
- Do not alter heater. Keep heater in its original state.
- Do not use heater if altered.
- Turn off propane supply and unplug heater when not in use.
- Use only original replacement parts. This heater must use design-specific parts. Do not substitute or use generic parts. Improper replacement parts could cause serious or fatal injuries.



## PRODUCT IDENTIFICATION



**Figure 1 - 35,000 BTU/Hr Model**

## UNPACKING

1. Remove all packing items applied to heater for shipment. Keep plastic cover caps (attached to inlet connector and hose/regulator assembly) for storage.
2. Remove all items from carton.
3. Check all items for shipping damage. If heater is damaged, promptly inform dealer where you bought heater.



# THEORY OF OPERATION

- The Fuel System:** The hose/regulator assembly attaches to the propane gas supply. This provides fuel to the heater.
- The Air System:** The motor turns the fan. The fan pushes air into and around the combustion chamber. This air is heated and provides a stream of clean, hot air.
- The Ignition System:** The piezo ignitor lights the burner.
- The Automatic Control System:** This system causes the heater to shut down if the flame goes out.

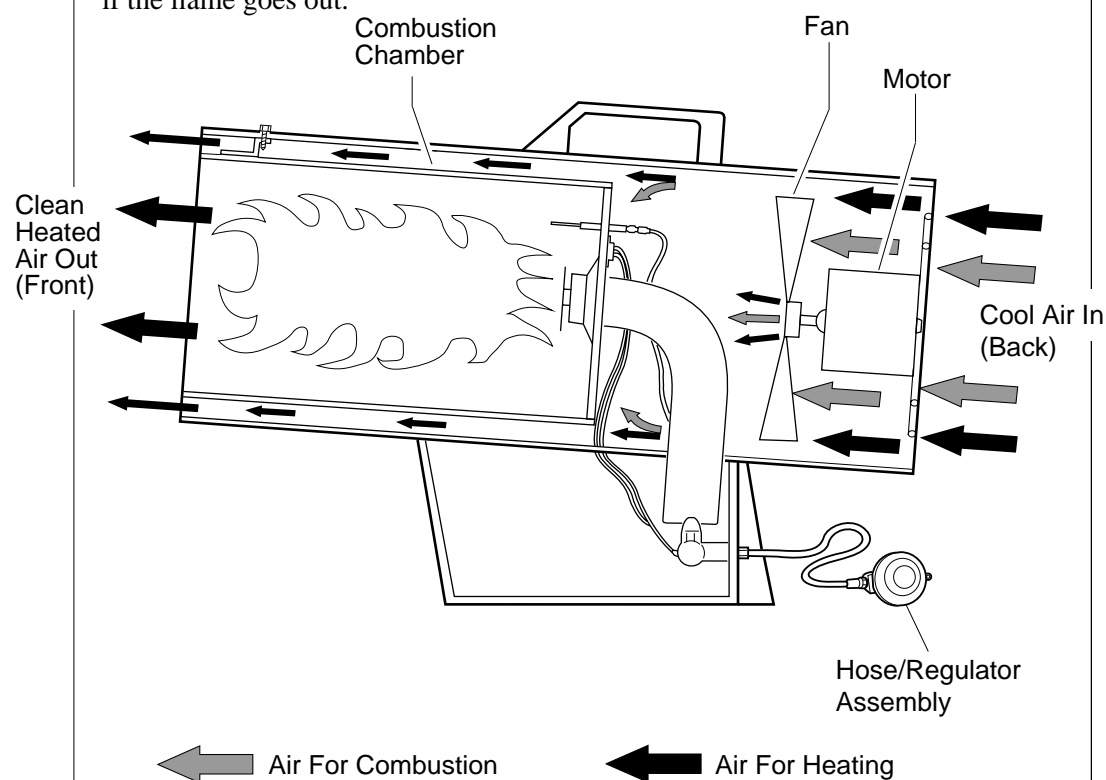


Figure 2 - Cross Section Operational View

# PROPANE SUPPLY

Propane gas and propane tank(s) are to be furnished by the user. Use this heater only with a propane vapor withdrawal supply system. See Chapter 5 of the *Standard for Storage and Handling of Liquefied Petroleum Gas, ANSI/NFPA 58* and/or *CAN/CGA B149.2*. Your local library or fire department will have this booklet.

- The amount of propane gas ready for use from propane tanks varies. Two factors decide this amount:
1. The amount of propane gas in tank(s)
  2. The temperature of tank(s)

This heater is designed to operate with a minimum 20-pound propane tank. You may need two or more tanks or one larger tank in colder weather. Use a 100-pound tank for longer operation or in very cold weather. Less gas is vaporized at lower temperatures. Your local propane gas dealer will help you select the proper supply system. The minimum surrounding air temperature rating for each heater is -20°F (-29°C).

Average Temperature (°F)	40°	32°	20°	10°	0°	-10°	-20°
At Tank Location							
Number Of Tanks (100-pound)	1	1	1	1	1	2	2



# INSTALLATION

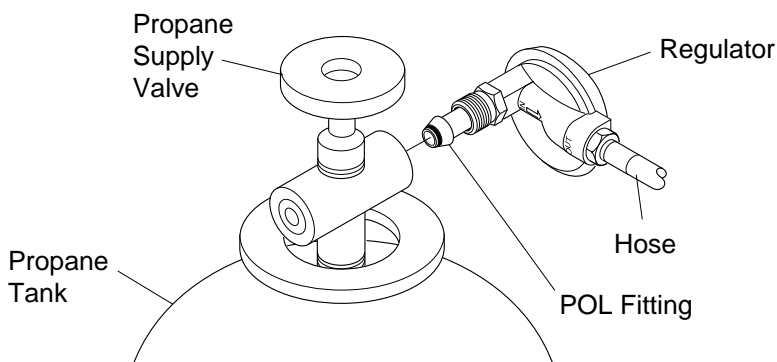
## ⚠ WARNING

Review and understand the warnings in the Safety Information Section, pages 2 and 3. They are needed to safely operate this heater. Follow all local codes when using this heater.

## ⚠ WARNING

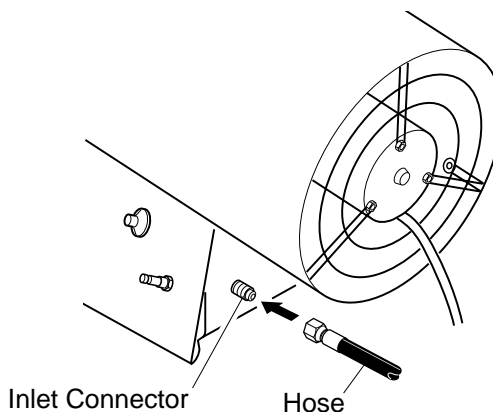
Test all gas piping and connections for leaks after installation or servicing. Never use an open flame to check for a leak. Apply a mixture of liquid soap and water to all joints. Bubbles forming show a leak. Correct all leaks at once.

1. Provide propane supply system (see *Propane Supply*, page 5).
2. Connect POL fitting on hose/regulator assembly to propane tank(s). Turn POL fitting counterclockwise into threads on tank. Tighten firmly using wrench. **IMPORTANT:** Position regulator so that hose leaving the regulator is in a horizontal position (see Figure 3). This places the regulator vent in the proper position to protect it from the weather.



**Figure 3 - Regulator Position**

3. Connect hose to inlet connector. Tighten firmly using a wrench. **IMPORTANT:** Use extra hose or piping if needed. Install extra hose or piping between hose/regulator assembly and propane tank. You must use the regulator supplied with heater.



**Figure 4 - Hose and Inlet Connector**



## VENTILATION

4. Open propane supply valve on propane tank(s) slowly. **Note:** If not opened slowly, excess-flow check valve on propane tank may stop gas flow. If this happens, close propane supply valve and open again slowly.
5. Check all connections for leaks. Apply mixture of liquid soap and water to gas joints. Bubbles forming show a leak that must be corrected.

### WARNING

**Never use an open flame to check for a leak. Apply a mixture of liquid soap and water to all joints. Bubbles forming show a leak that must be corrected. Correct all leaks at once.**

6. Close propane supply valve.

### WARNING

**Provide at least a one square foot opening of fresh, outside air while running heater. If proper fresh, outside air ventilation is not provided, carbon monoxide poisoning can occur. Provide proper fresh, outside air ventilation before running heater.**

## OPERATION

### WARNING

**Review and understand the warnings in the Safety Information section, pages 2 and 3. They are needed to safely operate this heater. Follow all local codes when using this heater.**

### To Start Heater

1. Follow all installation, ventilation, and safety information.
2. Locate heater on stable and level surface. Make sure strong drafts do not blow into front or rear of heater.
3. Plug power cord of heater into a three-prong, grounded extension cord. Extension cord must be at least six feet long. Extension cord must be UL listed.

#### **Extension Cord Wire Size Requirements**

Up to 50 feet long, use 18 AWG rated cord.

51 to 100 feet long, use 16 AWG rated cord.

101 to 200 feet long, use 14 AWG rated cord.

4. Plug extension cord into a 120 volt/60 hertz, 3-hole, grounded outlet. Motor will start. Fan will turn, forcing air out front of heater.

*Continued*



## OPERATION

*Continued*

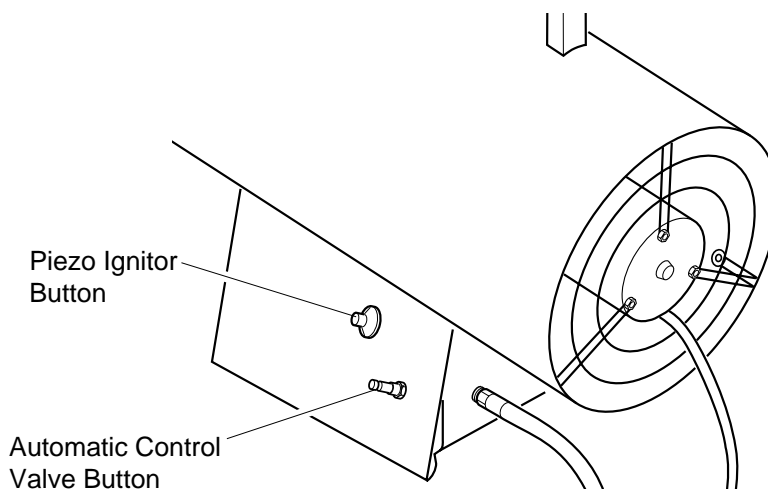
5. Open propane supply valve on propane tank(s) slowly. **Note:** If not opened slowly, excess-flow check valve on propane tank may stop gas flow. If this happens, close propane supply valve and open again slowly.

### **WARNING**

**Be sure motor and fan are running before pushing in automatic control valve button. Flames could flash outside heater if motor and fan are not running.**

6. Push in and hold automatic control valve button (see Figure 5). Push piezo ignitor button (see Figure 5). You may need to push piezo ignitor button 3-8 times until the burner lights. When burner lights, keep automatic control valve button pushed in. Release button after 30 seconds.

**Note:** If heater fails to ignite, hose may have air in it. If so, keep automatic control valve button pressed and wait 20 seconds. Release automatic control valve button and wait 20 seconds for unburned fuel to exit heater. Repeat step 6.



**Figure 5 - Automatic Control Valve Button and Piezo Ignitor Button**

**Notice:** If heater is unplugged or power outage occurs while heater is running, the thermal limit device will stop fuel flow. A few seconds occur before the thermal limit device activates. During this short time, flames may appear outside the heater. This is normal. The flames will go out when thermal limit device activates.

### **To Stop Heater**

1. Tightly close propane supply valve on propane tank(s). Allow heater to burn remaining fuel in hose.
2. Wait a few seconds. Heater will burn gas left in supply hose.
3. Unplug heater.

### **To Restart Heater**

1. Wait five minutes after stopping heater.
2. Repeat steps under *To Start Heater*, page 7.



## STORAGE

### CAUTION

**Disconnect heater from propane supply tank(s).**

1. Store propane tank(s) in safe manner. See Chapter 5 of *Standard for Storage and Handling of Liquefied Petroleum Gases, ANSI/NFPA 58* and/or *CAN/CGA B149.2*. Follow all local codes. Always store propane tanks outdoors.
2. Place plastic cover caps over brass fittings on inlet connector and hose/regulator assembly.
3. Store in dry, clean, and safe place. Do not store hose/regulator assembly inside heater combustion chamber.
4. When taking heater out of storage, always check inside of heater. Insects and small animals may place foreign objects in heater. Remove motor and other internal parts if needed to remove foreign objects (see *Service Procedures*, page 11).

## MAINTENANCE

### WARNINGS

- **Never service heater while it is plugged in, connected to propane supply, operating, or hot. Severe burns and electrical shock can occur.**
- **Keep heater clear and free from combustible materials, gasoline, and other flammable vapors and liquids.**
- **Do not block the flow of combustion or ventilation air.**

1. Keep heater clean. Clean heater annually or as needed to remove dust and debris. If heater is dirty or dusty, clean heater with a damp cloth. Use household cleaners on difficult spots.
2. Inspect heater before each use. Check all connections for leaks. Apply mixture of liquid soap and water to connections. Bubbles forming show a leak. Correct all leaks at once.
3. Inspect hose/regulator assembly before each use. If hose is highly worn or cut, replace.
4. Have heater inspected yearly by a qualified service agency.
5. Keep inside of heater free from combustible and foreign objects. Remove motor and other internal parts if needed to clean inside of heater (see *Service Procedures*, page 11).
6. Clean fan blades each season or as needed (see *Fan*, page 12).



# TROUBLE- SHOOTING

## **WARNING**

**Never service heater while it is plugged in, connected to propane supply, operating, or hot. Severe burns and electrical shock can occur.**

<b>OBSERVED FAULT</b>	<b>POSSIBLE CAUSE</b>	<b>REMEDY</b>
Fan does not turn when heater is plugged in.	No electrical power to heater	Check voltage to electrical outlet. If voltage is good, check heater power cord for breaks.
	Fan hitting inside of heater shell	Adjust motor/fan guard to keep fan from hitting inside of heater shell. Bend fan guard if necessary.
	Fan blades bent	Replace fan. See <i>Fan</i> , page 12.
	Defective motor	Replace motor. See <i>Motor</i> , page 11.
Heater will not ignite.	User did not follow installation or operation instructions properly	Repeat installation and operation instructions. See <i>Installation</i> , page 6 and <i>Operation</i> , page 7.
	No spark at ignitor. To test for spark, follow step 9 under <i>Ignitor</i> , page 13. If you see spark at ignitor, have heater serviced by qualified service person. If no spark seen: A) Loose or disconnected ignitor wire B) Wrong spark gap C) Piezo ignitor loose D) Bad ignitor electrode	A) Check ignitor wire. Tighten or reattach loose ignitor wire. See Figure 13, page 13 for ignitor wire location. B) Set gap between ignitor electrode and target plate to .17". C) Tighten nut holding piezo ignitor to base of heater. D) Replace ignitor electrode. See <i>Ignitor</i> , page 13.
Heater shuts down while running.	High surrounding air temperature causing thermal limit device to shut down heater.	This can happen when running heater in temperatures above 85°F. Run heater in cooler temperatures.
	Restricted air flow	Check heater inlet and outlet. Remove any obstructions.
	Damaged fan	Replace fan. See <i>Fan</i> , page 12.
	Excessive dust or debris in surrounding area	Clean heater. See <i>Maintenance</i> , page 9.

## **WARNING**

**Use only in areas free of high dust content.**



# SERVICE PROCEDURES

## Electrical System

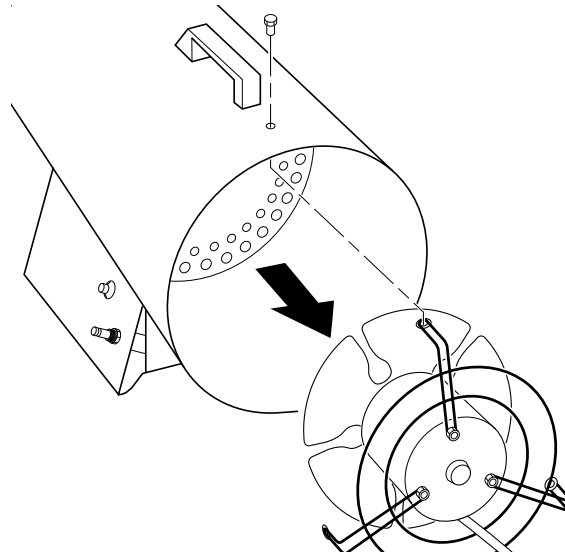
The entire electrical system for this heater is contained within the motor. If any part of the electrical system is damaged, you must replace motor.

## Motor

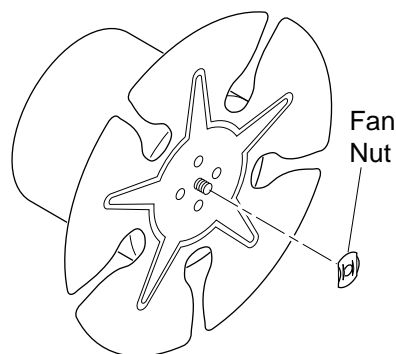
1. Remove three screws that attach fan guard to heater shell.
2. Remove motor and fan guard from heater shell (see Figure 6).
3. Use pliers to remove the fan nut from front of motor shaft (see Figure 7).
4. Remove fan. Be careful not to damage the fan blade pitch.
5. Remove three nuts that attach fan guard to motor using nut-driver. Remove fan guard from motor (see Figure 8).
6. Discard old motor.
7. Attach fan guard to new motor with three nuts. When attaching fan guard to motor, you must position power cord as shown in Figure 8. Tighten nuts firmly.
8. Place fan onto motor shaft of new motor.  
**IMPORTANT:** When placing fan onto motor shaft, make sure part number stamped on fan is facing motor. Attach fan nut to end of motor shaft. Tighten fan nut firmly.
9. Place motor and fan guard into rear of heater shell. Make sure power cord is properly located (see Figure 9).
10. Insert three screws through heater shell and into fan guard. Tighten screws firmly.

## ⚠ WARNING

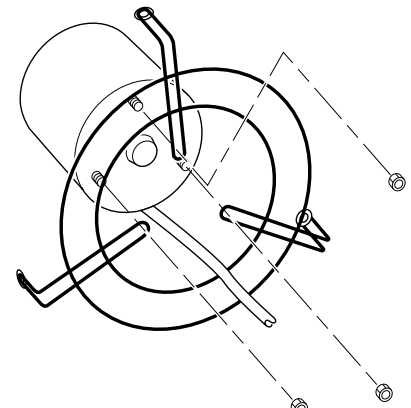
Never service heater while it is plugged in, connected to propane supply, operating, or hot. Severe burns and electrical shock can occur.



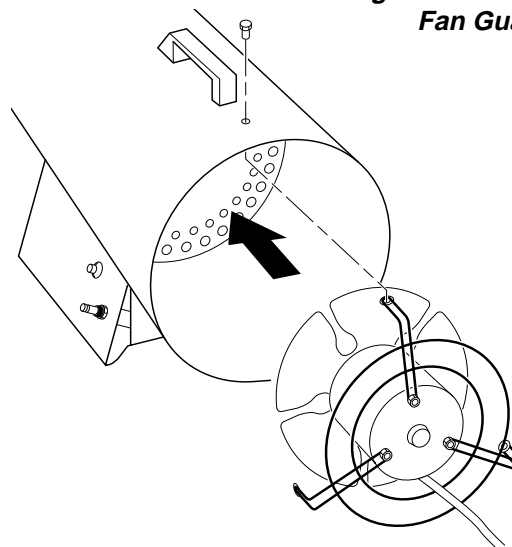
**Figure 6 - Removing Motor and Fan Guard from Heater**



**Figure 7 - Removing Fan Nut from Motor Shaft**



**Figure 8 - Removing or Attaching Fan Guard from Motor**

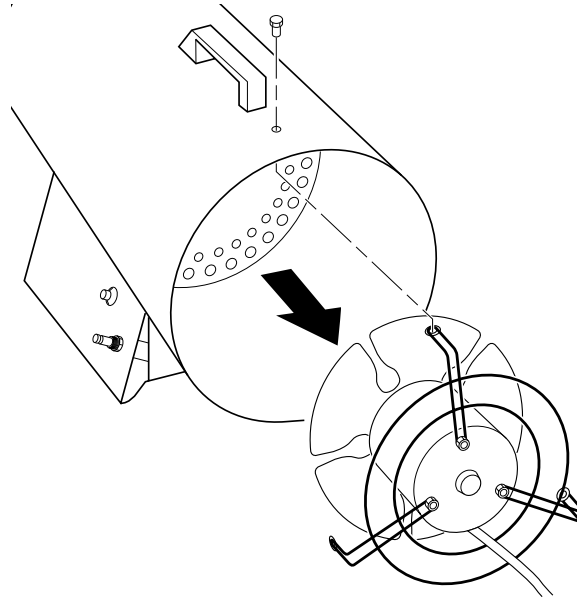


**Figure 9 - Replacing Motor and Fan Guard into Heater**

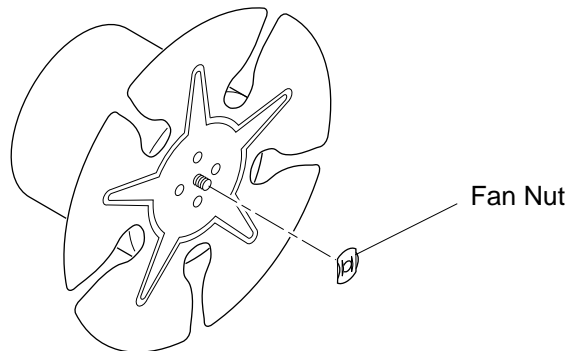


## Fan

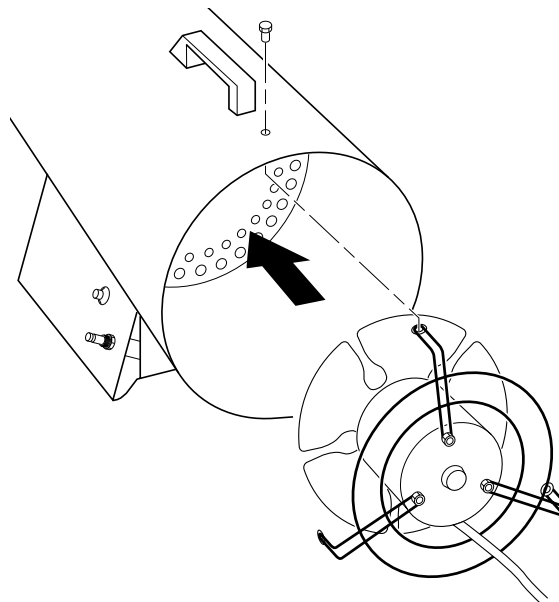
1. Remove three screws that attach fan guard to heater shell.
2. Remove motor and fan guard from heater shell (see Figure 10).
3. Use pliers to remove the fan nut from front of motor shaft (see Figure 11).
- 4a. If replacing fan, remove old fan and discard. Go to step 7 below.
- 4b. If cleaning fan, remove fan. Be careful not to damage the fan blade pitch.
5. Clean fan using soft cloth moistened with kerosene or solvent.
6. Dry fan thoroughly.
7. Place fan onto motor shaft.  
**IMPORTANT:** When placing fan onto motor shaft, make sure part number stamped on fan is facing motor.
8. Attach fan nut to end of motor shaft. Tighten fan nut firmly.
9. Place motor and fan guard into rear of heater shell. Make sure power cord is properly located (see Figure 12).
10. Insert three screws through heater shell and into fan guard. Tighten screws firmly.



**Figure 10 - Removing Motor and Fan Guard from Heater**



**Figure 11 - Removing Fan Nut from Motor Shaft**

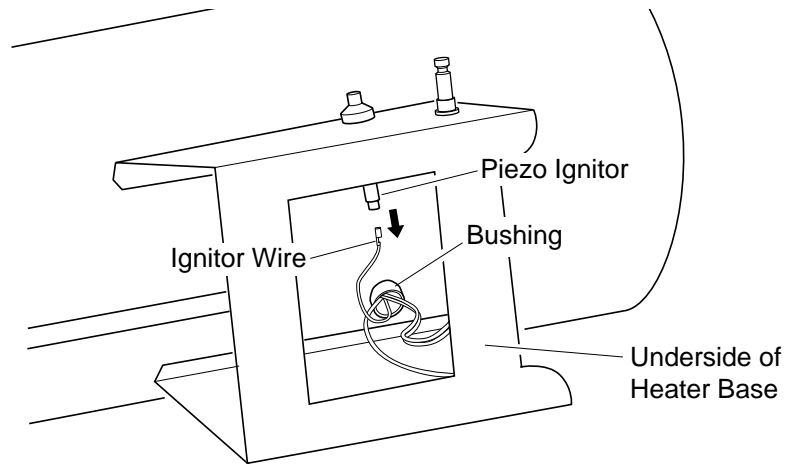


**Figure 12 - Replacing Motor and Fan Guard into Heater**

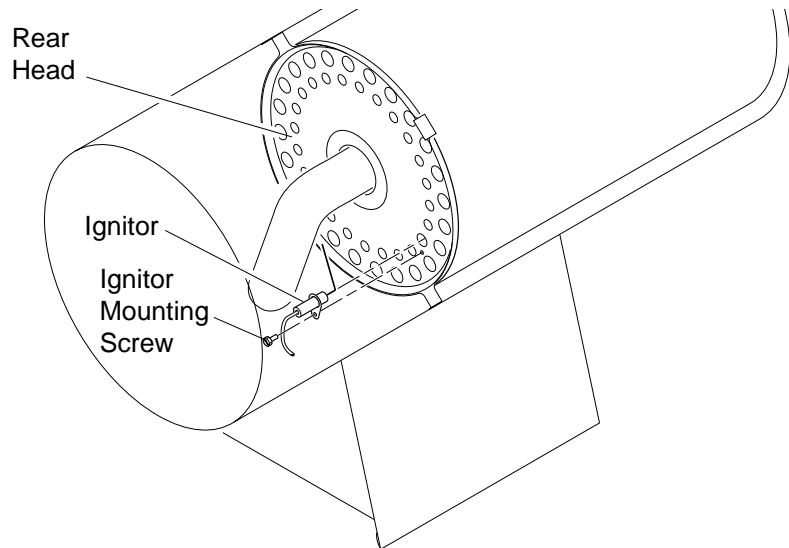


## Ignitor

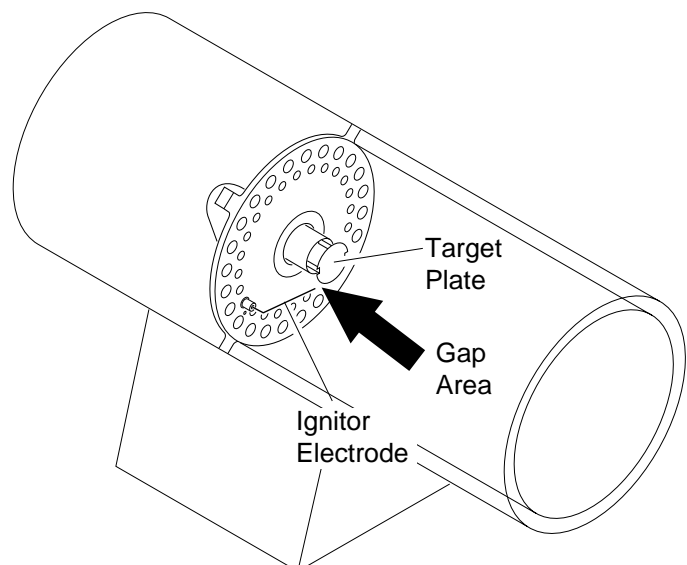
1. Remove motor and fan guard from heater (see *Motor*, page 11, steps 1 and 2).
2. Remove black ignitor wire from piezo ignitor. Access ignitor wire through underside of heater base (see Figure 13). Push wire up through bushing in heater shell.
3. Remove ignitor mounting screw from rear head using nut-driver or standard screwdriver (see Figure 14).
4. Remove ignitor from rear head.
5. Install new ignitor. Attach ignitor to rear head with ignitor mounting screw.
6. Run ignitor wire from new ignitor through bushing in heater shell. Attach ignitor wire to piezo ignitor.
7. Set gap between ignitor electrode and target plate to .17" (see Figure 15).
8. Test for spark.  
**WARNING: Make sure heater is disconnected from propane supply. Heater could ignite causing severe burns.** Push piezo ignitor button and watch for spark between ignitor electrode and target plate.
9. Place motor and fan guard into rear of heater shell (see *Motor*, page 11, steps 9 and 10).



**Figure 13 - Removing Ignitor Wire from Piezo Ignitor**



**Figure 14 - Removing Ignitor Mounting Screw and Ignitor**

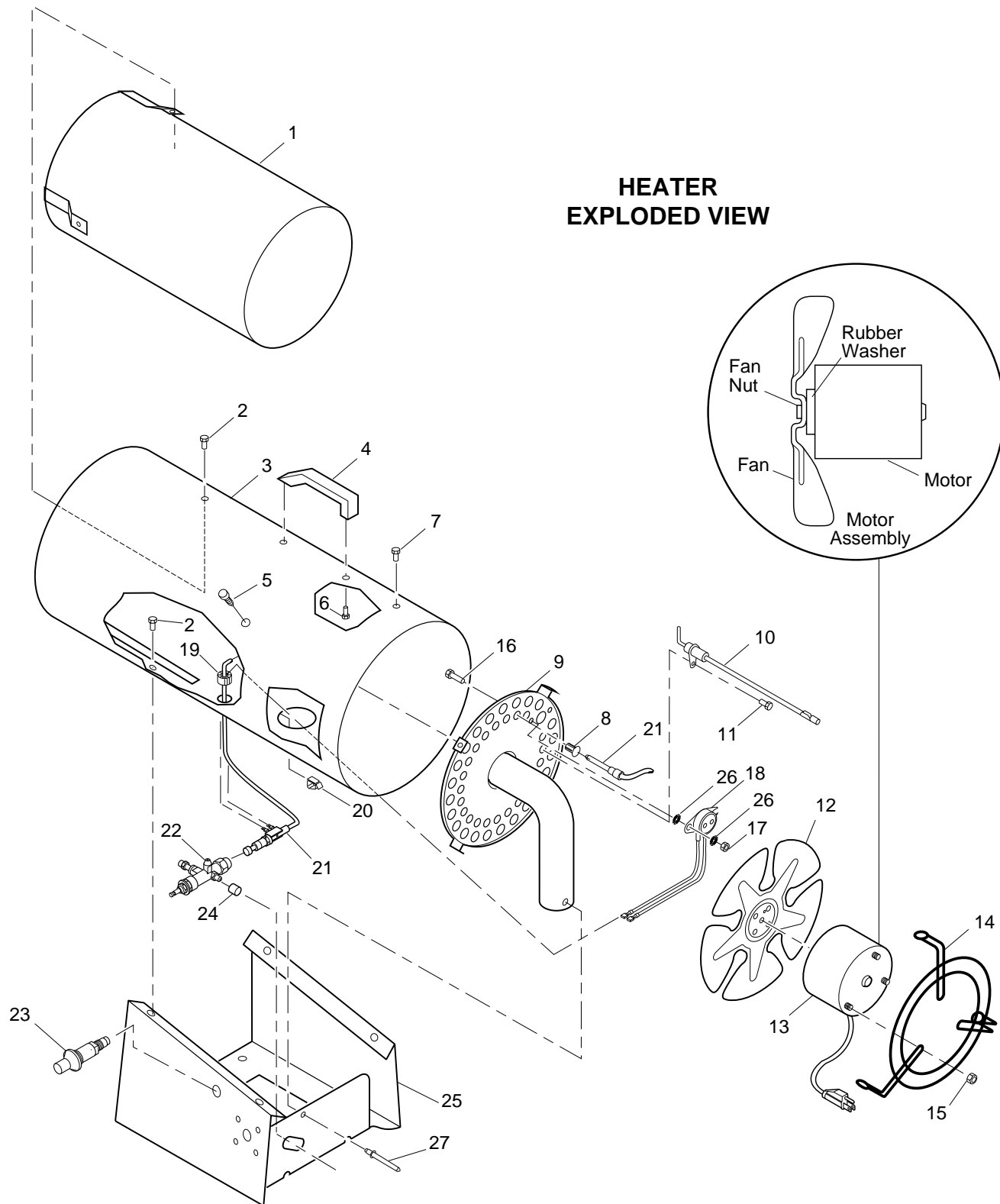


**Figure 15 - Clearance between Ignitor Electrode and Target Plate**



# ILLUSTRATED PARTS BREAKDOWN HP35

## HEATER EXPLODED VIEW





# PARTS LIST

KEY NO.	PART NO.	DESCRIPTION	QTY.
1	04754-01	Inner Shell (Combustion Chamber)	1
2	00529-10	Hex Tap Screw, #10-16 x 3/8"	7
3	04754-02	Outer Shell	1
4	00529-44	Handle	1
5	04754-03	Hex Tap Shoulder Screw	4
6	00529-12	Hex Tap Screw, #10-16 x 3/4"	2
7	04754-04	Hex Tap Screw, #12-14 x 1/2"	3
8	03327-31	Thermocouple Clip	1
9	04754-05	Burner Assembly	1
10	04754-06	Electrode Ignitor	1
11	01086-32	Hex Tap Screw, #8-18 x 3/8"	1
12	04754-08	Fan	1
13	04754-09	Motor Assembly (Includes Rubber Washer and Fan Nut)	1
14	04754-10	Fan Guard	1
15	04754-11	Captive Washer Nut	3
16	03326-20	Hex Screw, #4-40 x 1/4"	2
17	01086-30	Hex Nut, #4-40	2
18	04754-12	Thermal Switch Kit(Including Hardware and Wire Assemblies)	1
19	03326-14	Universal Bushing	1
20	04754-13	Wire Clip	1
21	04754-14	Thermocouple	1
22	04754-15	Valve/Orifice Assembly	1
23	01087-24	Piezo Ignitor	1
24	03327-03	Sleeve Cap	1
25	04754-16	Base	1
26	04754-17	Lock Washer, #4	4
27	04754-18	Steel Rivet, 1/8"	1
<b>PARTS AVAILABLE - NOT SHOWN</b>			
	04754-20	General Information Decal	1
	04754-22	Operation Decal	1
	03326-12	LP Warning Decal	1
	04754-23	Notice Decal	1
<b>ACCESSORIES</b>			
	04754-24	Regulator & Hose Assembly	1
	03327-37	10' Hose	1
	04754-25	Regulator	1
	03326-53	POL Connector	1



## SPECIFICATIONS

Output Rating (BTU/Hr)	35,000
Fuel	Propane Vapor Only
Fuel Consumption	
Gallons/Hour	.38
Pounds/Hour	1.6
Supply Pressure To Regulator	
Minimum (for purposes of input adjustment)	10 psi
Maximum	Tank Pressure or 200 psi
Regulator Outlet Pressure	11" WC
Manifold Pressure	10.8" WC
Hot Air Output (CFM Approx)	175
Motor	2735 RPM
Electric Input	120 volt/60 hertz
Amperage	2
Ignition	Manual, Piezo
Weight (Pounds)	
Heater	14.5
Shipping	16
Size - L x W x H (Inches)	
Heater	18.5 x 7.7 x 12.8
Temperature Range for Heater Operation	-20° F to 85° F*

\* When running heater in temperatures above 85° F, high internal temperatures may cause thermal limit device to shut down heater.



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## **CUSTOMER ASSISTANCE**

**FOR THE LOCATION OF YOUR NEAREST HOMELITE SERVICING DEALER IN THE  
UNITED STATES, PUERTO RICO, AND THE VIRGIN ISLANDS**

**CALL: 1-800-242-4672**

**NOTE: DEALER INFORMATION, TECHNICAL ADVICE, AND PRODUCT  
INFORMATION CAN BE OBTAINED AT THIS NUMBER.**

## **HEADQUARTERS**

**HOMELITE**  
P.O. BOX 7047  
CHARLOTTE, N.C. 28241

## **OVERSEAS OFFICES**

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